

IMPELLER FOR COOLANT PUMPS  
ABSTRACT OF THE DISCLOSURE

A cooling water pump for internal combustion engine includes a base and an outer cover forming a water input chamber, an impeller supported on a shaft within said chamber, fed shaft includes a bearing/seal unit mounted within the base and the shaft extended outwardly for connection to the engine. A one-piece, fully enclosed and double shrouded impeller is secured to the shaft. Impeller has a central hub with an outer peripheral concave surface, a bottom convex end wall, vanes are secured to the central portion of the concave wall in the bottom wall and project outwardly therefrom with an outer top shroud. The base has a recess within which the bearing/seal unit is mounted. The recess extends outwardly beyond the outer edge convex wall of the hub from a cooling chamber. The vanes direct a portion of the water flowing through the passageway into the recess for cooling purposes and then back into the radially outer portion of the passageway for discharge with the flowing water into the outlet passageway. The radially inner end of the shroud and outer convex wall overlap each other to form a controlled entrance into the outlet passageway to divert part of the flow into the recess.